SECTION 3.13: PUBLIC HEALTH

This section discusses the potential effects that the alternatives considered in Chapter 2 would have on public health within the DMC Unit. Information in this section was summarized primarily from the Final CVPIA PEIS (Reclamation and Service 1999).

AFFECTED ENVIRONMENT

In addition to being persistent pests, mosquitoes can carry various strains of diseases known as arboviruses (or, more specifically, encephalitis). They are also known to transmit malaria (a parasitic blood disease) to humans and heartworms (a parasite) to dogs. Because the viruses often go unreported until patients develop acute symptoms, the prevalence of the viruses is also subsequently underreported. According to the CVPIA PEIS, outbreaks have been reported in the San Joaquin Region (Reclamation and Service 1999).

Any environment in which water is allowed to stand in shallow areas can serve as breeding ground for mosquitoes. These environments include wetlands, wildlife refuges, pastures, streams, canals, reservoirs, and other areas where water is relatively still. The main features near the project area that carry water include the San Joaquin River, Delta-Mendota Canal, and Mendota Pool. Some of these features could provide breeding grounds for mosquitoes. Also, sloughs and wildlife refuges that are near the project area typically serve as mosquito breeding grounds.

The major project features either within or near the project area with the greatest likelihood of attracting mosquito populations include the San Joaquin River, Delta-Mendota Canal, and Mendota Pool. A higher potential for breeding would occur in standing water near the San Joaquin River, which is a natural channel, and the Mendota Pool, which serves a reservoir. It is expected that mosquito breeding would be less or nonexistent along the Delta-Mendota Canal because the water typically flows swiftly as it is distributed throughout the Central Valley. Open canals and ditches associated with contractors' distribution systems and the reuse of tailwater could provide breeding ground for mosquitoes.

The majority of the 20 DMC Unit contractors have distribution systems to transport their CVP water supply. These distribution systems generally consist of varying lengths of lined and unlined canals, lift stations, underground pipelines, and open ditches. Much of these systems are gravity-fed, open canals. Also, as discussed in Section 3.1, Contractor Service Area Descriptions, many of the contractors within the DMC Unit reuse drainage or tailwater to eliminate offsite drainage. This tailwater is most often transported through

unlined ditches and returned onto a field for irrigation or into a district's distribution system for reuse. The moving water does not serve as a breeding area for mosquitoes.

Local mosquito control agencies have been developed to control mosquitoes and other vectors in an effort to control epidemics of human encephalitis and malaria. The mosquito abatement districts and control agencies adapt their practices in response to hydrologic conditions and the extent of areas supporting appropriate breeding habitat (Reclamation and Service 1999).

ENVIRONMENTAL CONSEQUENCES

NO-ACTION ALTERNATIVE

As described in Chapter 2, the No-Action Alternative provides baseline conditions for comparing the action alternatives and represents future conditions at a projected level of development without the implementation of any action alternative.

The implementation of the No-Action Alternative is not expected to increase flows or the incidence of standing water in project features and, therefore, would not result in an increase in mosquito populations above those already in existence. Because no direct increase in mosquito populations is anticipated, it is assumed that CVP contractors will continue to implement local vector abatement programs to control mosquito breeding conditions and protect public health. One practice that would continue is the removal of aquatic weeds from open ditches and canals. Areas with heavy aquatic weed growth can contribute to creating an environment attractive to mosquitoes. The majority of the 20 DMC Unit contractors remove aquatic weeds by applying chemical herbicides. Other contractors use mechanical practices to remove weeds from canals.

The implementation of tiered pricing under this alternative could result in contractors seeking alternative, more affordable water supply sources. As a result, groundwater pumping and water transfers could increase. Increased groundwater pumping is not expected to directly contribute to an increase in the mosquito population, because the facilities used to pump and distribute groundwater are primarily underground and would not result in standing water.

Increased water transfers are also not expected to directly contribute to an increase in the mosquito population. It is assumed that no additional distribution facilities or expansions of any facilities would be constructed as a result of long-term water service contract renewals. It can be assumed that water will be transferred through the current distribution facilities and will not expand the mosquito population.

As the quantities of CVP water deliveries are decreased, the environment contributing to mosquito breeding will also correspondingly decrease to the extent that standing water is decreased.

ALTERNATIVE 1

Similar to the discussion above for the No-Action Alternative, Alternative 1 would not directly result in an increase in mosquito populations or have an adverse impact on public health. The implementation of Alternative 1 is not expected to increase flows or the incidence of standing water in project features and, therefore, would not result in an increase in mosquito populations.

ALTERNATIVE 2

Similar to the discussion above for the No-Action Alternative, Alternative 2 would not directly result in an increase in mosquito populations or have an adverse impact on public health. The implementation of Alternative 2 is not expected to increase flows or the incidence of standing water in project features and, therefore, would not result in an increase in mosquito populations.

CUMULATIVE IMPACTS

Long-term contract renewals, when added to other past, present, and reasonably foreseeable future actions, would not incrementally increase the incidence of standing water or increase mosquito breeding conditions beyond conditions already existing under current delivery quantities and storage and conveyance management and operations. Long-term contract renewals will obligate delivery of the same quantities of water to the same lands, without additional facility modifications or construction that could affect public health conditions in the study area.